

REMARKS

In the present Amendment, claim 1 has been amended to recite that the step of stirring the water-absorbing resin powder by vibration is carried out by a controlled forced vibration generated by a mechanical vibrator. section 112 support for this Amendment may be found, for example, at page 21, line 9 to page 22, line 4 of the specification.

Claim 3 has been canceled without prejudice or disclaimer.

Claim 6 has been amended to simplify and clarify the claim language. The claim as amended recites that at least one of the heat treatment and the cooling treatment is carried out with a machine having a downward inclination. No new matter has been added.

Claim 7, as it depends from claim 1, has been rewritten in independent form. The word “fluidized” in the last clause of the claim has been amended to “flowed” for purposes of clarity. Section 112 support for the amendment may be found, for example, in the claim’s recitation of “piston flow.”

Similarly, claim 11, as it depends from claim 1, has been rewritten in independent form.

New independent claims 18 and 24 have been added. These claims correspond to claims 7 and 11, respectively, as they depend from claim 2, rewritten in independent form. As in the case of claim 11, the word “flowed” is used in the last clause of claim 24, rather than “fluidized.”

New dependent claims 19-23 and 25-26 have been added.

Claim 19 corresponds to claim 5, except that it depends from claim 7, rather than claim 1.

Claim 20 corresponds to claim 5, except that it depends from claim 18, rather than claim 1.

Claim 21 corresponds to claim 8, except that it depends from claim 18, rather than claim 7.

Claim 22 corresponds to claim 9, except that it depends from claim 18, rather than claim 7.

Claim 23 corresponds to claim 10, except that it depends from claim 18, rather than claim 7.

Claim 25 corresponds to claim 5, except that it depends from claim 11, rather than claim 1.

Claim 26 corresponds to claim 5, except that it depends from claim 24, rather than claim 1.

Claim 15 has been rewritten in independent form. Entry of the Amendment “after final” is submitted to be proper because Applicants are merely clarifying the language of two claims (that is, claims 1 and 6) and canceling a third claim, that is, claim 3. The remaining amendments involving claims 7, 11, 15 and new claims 18-26 are for the purpose of rewriting in independent form (or appropriate dependent form) claims which were objected to, but otherwise indicated to be allowable.

Upon entry of the Amendment, which is respectfully requested, claims 1-2 and 4-26 will be pending.

At pages 2-3 of the Action, claims 1, 6 and 12-14 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent 5,672,633 to Brehm et al.

Applicants submit that this rejection should be withdrawn because Brehm et al does not disclose or render obvious the surface crosslinking treatment method of a water-absorbing resin powder of the present claims.

As to claim 1 and the recitation pertaining to stirring the water-absorbing resin powder mechanically or by vibration and cooling under a forced air flow, the Examiner contends that these steps necessarily and inherently take place upon cooling the powder in a fluidized bed, which, the Examiner says, by its very design vibrates the powder by forced airflow.

In response, Applicants respectfully submit that a fluidized bed does not inherently (i.e., necessarily) “stir” the powder by “vibration.”

Further, claim 1 has been amended to recite that the water-absorbing resin powder is stirred mechanically or by controlled forced vibration generated by a mechanical vibrator, and cooled under a forced air flow.

As reflected in this amendment, mechanical vibration is applied to the apparatus, and as a result, the particles vibrate. The “forced air flow” recited in the claim is not the driving force of the vibration. To the extent, if at all, that the fluidized bed may vibrate due to a forced air flow, such a phenomenon is not intentionally-induced but incidental. While the air flow per se functions to cause movement of particles, it does not stir the powder mechanically or by vibration, let alone by a controlled forced vibration generated by a mechanical vibrator. According to present claim 1, the forced air flow is not required to have such function. In the present invention, the apparatus per se is intentionally made to vibrate by means of a certain

mechanical action, thereby consequently causing movement of particles. The same applies also to “stirring mechanically.”

Claim 1 recites mechanical or vibration stirring, and merely requires that a forced air flow be present at that time. The claimed language as amended makes clear that the movements of the particles are not caused by the forced air flow, but are substantively caused by controlled (forced) stirring.

As to the recitations of claim 6, the Examiner states that the recitations are directed to a machine, which is not even recited in the base claim 1. Per the Examiner, there is no requirement that the recited machine is even used in the claimed process. The Examiner states that to be entitled to weight in method claims, the recited structure limitations therein must affect the method in a manipulative sense, and not amount to the mere claiming of a use of a particular structure.

In response, Applicants submit that claim 6 is patentable over Brehm et al for at least the same reasons as claim 1.

In addition, claim 6 has been amended to simply and clarify the claim language, reciting that at least one of the heat treatment and the cooling treatment is carried out with a machine having a downward inclination. The amendment is believed to address the Examiner’s concern and further distinguish Brehm et al.

Claims 12, 13 and 14 are patentable over Brehm et al for at least the same reasons as claim 1. Additional reasons for patentability are as follows.

As to claim 12, the Examiner states that this claim recites that the stirring and cooling step “comprises stirring the water-absorbing resin powder under a forced air flow while continuously or batchwise cooling the powder in a mixing machine having a forced cooling function.” The Examiner is of the position that in the absence of a clear definition of what “forced cooling function” is, this limitation is met by the cooling of the powder in a fluidized bed since the cooling is conducted by force flowing fluid through the powder.

Regarding claim 12, the expression “forced cooling function” means a function of forcibly cooling with contact heat transfer with the particles to be cooled. This does not include, for example, heat release under standing conditions. Although a forced air flow in a fluidized bed may fulfill this function, the fluidized bed should work for both fluidizing the particles and for cooling. To the contrary, according to the present invention, the forced air flow is not required to have a function of fluidizing the particles. As for a specific disclosure concerning this point, the description in the paragraph bridging pages 22-23 discloses that the air flow rate is preferably not more than about the terminal velocity of particles. In the case of a fluidized bed, on the other hand, it is generally necessary to be operated at a rate higher than the terminal velocity of the particles to be cooled for fluidized, thus different from the present invention in terms of operation conditions.

As to claims 13 and 14, the Examiner contends that these claims recite physical characteristics and capabilities of an apparatus without requiring that these capabilities be used in the process. Per the Examiner, a fluidized bed apparatus has a rotational axis (normally, the Examiner says, it is cylindrical), and is capable of the recited functions by design. In the

Examiner's view, whether the functions are utilized in the process disclosed by the reference is immaterial.

Applicants respectfully disagree with the Examiner that claims 13 and 14 do not require that the recited capabilities be used in the process. Claim 13 expressly requires that the step of stirring and cooling be conducted in a stirring device which has a rotation axis and is capable of stirring and cooling. Furthermore, Applicants respectfully disagree with the Examiner's contention that a fluidized bed apparatus has a rotational axis. The Examiner cites no support for her contention that fluidized beds are normally cylindrical. Furthermore, even if they are, the axis of the cylinder is not, in Applicants' view, an actual (as opposed to imaginary) rotational axis. Further, Applicants disagree with the Examiner's contention that whether the functions are utilized in the process disclosed by the reference is immaterial. The Examiner's view of the law is based on an outdated Board decision from 1961. The language of the claims cannot be ignored and must be given meaning and effect. Here, claim 13 requires that the step of stirring and cooling be conducted in a stirring device. A fluidized bed is not a stirring device. There is no requirement in the statute or in the case law of the Office's reviewing court, the CAFC, that a structural limitation in a method claim must "affect the method in a manipulative sense," whatever is meant by that expression.

The "rotational axis" as referred to in the present application does not mean an axis for imaginary rotation (for example, z axis in the space with x, y and z axes), but means an axis serving as a driving part of a device. For example, referring to a paddle, it has a real axis for actual rotation at the center thereof. Thus, the "rotational axis" as referred to in the present

invention means an axis for actually driving or operating a device (which may be any such as a paddle, and so on) and does not mean an axis for imaginary rotation.

In view of the above, the Examiner is kindly requested to reconsider and withdraw the §102(b) rejection of claims 1, 6 and 12-14 based on Brehm et al '633.

At page 4 of the Action, claims 2 and 5 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as allegedly being obvious over U.S. Patent 5,672,633 to Brehm et al.

Applicants submit that this rejection should be withdrawn because Brehm does not disclose or render obvious the surface crosslinking treatment method of a water-absorbing resin powder of present claims 2 and 5.

As to claim 2, Applicants submit that claim 2 distinguishes Brehm for essentially the same reasons as claim 1. Brehm does not disclose or fairly suggest cooling the water-absorbing resin powder under a forced air flow with mechanical stirring or stirring by vibration.

In addition, the Examiner has not shown where Brehm discloses removing at least a part of the fine particles of the water-absorbing resin powder and/or the residual cross linking agent with the forced air flow, at the same time the mixture is being cooled.

Turning to claim 5, claim 5 is patentable over Brehm et al for at least the same reasons as claim 1. In addition, claim 5 recites that the water-absorbing resin powder is agglomerated after the heat treatment during the cooling step. Brehm, on the other hand, speaks of obtaining a "powdery polymer." See, for example, Brehm's Example 2 at col. 8, line 37; Example 3 at col. 9, lines 43-44; and claim 1.

The term “agglomerated” referred to in present claim 5 is intended to mean an assemblage of particles. The “powdery polymer” in Brehm is not clearly defined, and is not necessarily agglomerated. For this reason, it is believed there is a distinction from the present invention.

In view of the above, the Examiner is respectfully requested to reconsider and withdraw the §102(b)/§103 rejection of claims 2 and 5 based on Brehm.

At page 4 of the Action, claim 3 is rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Brehm.

This rejection is moot in view of the cancellation of claim 3.

Also at page 4 of the Action, claim 4 is rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Brehm in combination with U.S. Patent 4,295,281 to Potter. Applicants submit that this rejection should be withdrawn for the same reasons that the §102(b) rejection of claims 1, 6 and 12-14 based on Brehm should be reconsidered and withdrawn. Potter does not make up for the deficiencies of Brehm.

Claim 4 recites that the air flow is generated under a reduced pressure. In this regard, Potter discloses that a fluidized bed for drying brown coal may be operated under pressure or vacuum (col. 3, lines 10-11). However, Potter does not appear to disclose or suggest that an air flow is generated under a reduced pressure. To the contrary, Potter teaches away from a reduced pressure condition by stating at column 3, lines 11-12 that operation at or near atmospheric pressure is preferred for reasons of economy. This is an independent reason why the combination of Brehm et al and Potter would not result in the present invention.

Amendment Under 37 C.F.R. § 1.116
U.S. Appln. No.: 10/798,346

Accordingly, reconsideration and withdrawal of the §103 rejection of claim 4 based on Brehm in view of Potter are respectfully requested.

At page 6 of the Action, the Examiner states that claim 7-11 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form.

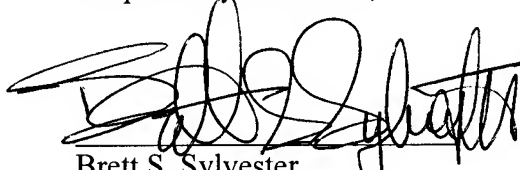
As noted, claims 7, 11 and 15 have been rewritten in independent form. Applicants respectfully submit that independent claims 7, 11, 15, 18 and 24, and the claims depending therefrom, are in condition for allowance.

Allowance is respectfully requested.

If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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CUSTOMER NUMBER

Date: April 26, 2007